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Australia Pacific Electric Cables Pty Ltd
ABN 23 066 447 763

Cables Technical Specification - SDI Single Core Flexible Power Cables XLPE (X90) Insulated/PVC sheathed AS/NZS 5000.1

* Cable drawing



Cable Configuration:

Cu Class 5/X90/PVC 0.6/1kV

Cable Construction:

Conductor: Plain Annealed Copper Class 5 to AS/NZS 1125
Binder Tape: Mylar/Non-woven/Polyester/Mica Tape (where required)
Insulation: X90
Sheath: Weatherability PVC 5V-90 to AS/NZS 3808

Technical data

Items		Unit	Average Values														
Product code	For black sheath For orange sheath	-	FXV010 FXV010WO	FXV016 FXV016WO	FXV025 FXV025WO	FXV035 FXV035WO	FXV050 FXV050WO	FXV070 FXV070WO	FXV095 FXV095WO	FXV120 FXV120WO	FXV150 FXV150WO	FXV185 FXV185WO	FXV240 FXV240WO	FXV300 FXV300WO	FXV400 FXV400WO	FXV500 FXV500WO	FXV630 FXV630WO
Number of Cores		-	Single Core (1C)														
Conductor Cross section Area (CSA)		mm ²	10	16	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum total number of wires		mm	73	116	181	256	365	333	437	563	702	851	1133	1406	1861	2318	3111
Maximum diameter of wires in conductor		mm	0.41	0.41	0.41	0.41	0.41	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Conductor diameter		mm	3.94	5.39	6.68	8.51	10.12	11.55	13.08	14.96	16.60	18.30	21.30	23.60	27.40	30.70	35.50
Binder Tape (overlapping ≥25%)		mm	Mylar/Non-woven/Polyester/Mica Tape (if required)														
*Average Insulation Thickness		mm	0.7	0.7	0.9	0.9	1.0	1.1	1.1	1.2	1.4	1.6	1.7	1.8	2.0	2.2	2.4
Overall Insulation Diameter		mm	5.9	7.4	9.1	10.9	12.7	14.4	15.9	18.0	20.0	22.1	25.3	27.8	32.0	35.7	40.9
*Average Sheath Thickness		mm	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.2
Overall Sheath Diameter (±10%)		mm	8.7	10.2	11.9	13.7	15.5	17.2	18.9	21.0	23.2	25.5	28.9	31.6	36.0	39.9	45.5
Cable Gross Mass (±10%)		kg/km	149	221	335	445	579	790	1039	1298	1610	1956	2495	3081	4010	5120	6350
Maximum Conductor DC Resistance @ 20°C		Ω/km	1.91	1.21	0.78	0.554	0.386	0.272	0.206	0.161	0.129	0.106	0.0801	0.0641	0.0486	0.0384	0.0287
Minimum Bending Radius	During installation	mm	52	61	71	82	93	103	113	126	139	153	173	190	216	239	273
	Fixed	mm	35	41	48	55	62	69	76	84	93	102	116	126	144	160	182
Maximum Safe Pulling Tension (Subject to a maximum of 22kN)		kN	0.7	1.12	1.75	2.45	3.5	4.9	6.65	8.4	10.5	12.95	16.8	21.0	22.0	22.0	22.0
Remark: O - Orange sheath																	

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Colour Identification:

Insulation: White
Sheath: Orange / Black

Electrical Characteristics:

Voltage Rating: 0.6/1kV
HV Test for 5 mins: 3.5kV
Maximum continuous conductor operating temperature: 90°C
Minimum Insulation Resistance constant @20°C: 3000GΩ.m
Minimum Insulation Resistance constant @90°C: 3GΩ.m

Operating Temperature:

Conductor: -25°C to 90°C
Short Circuit (5 secs): 250°C
The minimum ambient temperature is 0°C after insulation and only when cables in a fixed position

Mechanical Characteristics:

Minimum Bending Radius: During installation-60D, Fixed-40D
Maximum Safe Pulling Tension: 0.07 x Total Conductor CSA

Cable Markings:

APEC YEAR X90 ELECTRIC CABLE 0.6/1 KV SIZE SQMM CU AS/NZS 5000.1

Standard Compliance:

AS/NZS 5000.1 Part 1: For working voltages up to and including 0.6/1 (1.2kV)
AS/NZS 3808 Insulating and sheathing materials for electric cables
AS/NZS 3008 Electrical installations—Selection of cables-Part 1.1: Cables for alternating voltages up to and including 0.6/1 kV—Typical Australian installation conditions
AS/NZS 1660 Test methods for electric cables, cords and conductors
AS/NZS 1574 Copper and Copper alloys - wire for electrical purposes
AS/NZS 1125 Conductors in insulated electric cables and flexible cords

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